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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,679	03/26/2004	Yutaka Takagi	36856.1233	7883

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EXAMINER	
LUPINO, GINA M	
ART UNIT	**PAPER NUMBER**
3652	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,679	TAKAGI ET AL.	
	Examiner	Art Unit	
	Gina M. Lupino	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

I. Claim Rejections - 35 USC § 112

The following is a quotation from the relevant paragraphs of 35 U.S.C. 112:

> (2) The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 9 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

   1.1. Claims 9 and 19 both recite the limitation, "an obstacle arranged to dispense". However, it is unclear how an obstacle, or "something that obstructs or hinders progress" can dispense. This language is unclear renders claims 9 and 19 indefinite. However, the Examiner will construe this language in claims 9 and 19 to mean the feeder may transport a predetermined value of chip components.

II. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 3-4, 6-11, 13-14, 16-21, 23-24, 26-31, 33-34, 36-40, and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIYOKAWA (U.S. Patent No. 6,019,564) in view of JIN (U.S. Patent No. 6,121,118).

   1.1. With respect to claim 1, KIYOKAWA discloses a handling device for chips with:

      1.1(a) An accommodating device 4 with cavities 5 arranged to put chips into it, and

1.1(b) A feeder 3, 3F, 3R, arranged to supply the chips to the device 4, with a transport surface arranged to transport the chips toward the cavities, and a feeding section arranged to feed the electronic components into the cavities,

1.1(c) The device 4 is arranged to move such that two cavities 5 are simultaneously disposed at a location close to the feeder 3, 3F, 3R, and

1.1(d) The chips are put directly into the cavities 5 from the feeder 3, 3F, 3R.

1.1(e) See Figure 1 and column 5, lines 27-31, 41-50.

1.2. With respect to claims 3-11, 13-14, 16-21, 23-24, 26-31, 33-34, 36-40, and 43-44, KIYOKAWA discloses a handling device, as discussed above, where:

1.2(a) With respect to claim 3, when the electronic chip components are put into the cavities 5 from the feeder 3, the chips are directly put into the cavities 5 without being moved along a main surface of the device. See Figure 1 and column 5, lines 41-46.

1.2(b) With respect to claim 4, where the device 4 is a rotating disk-shaped device having a main surface B, and the cavities 5 are disposed so as to be located close to the feeder 3, 3F, 3R as a result of rotation thereof. See Figure 1.

1.2(c) With respect to claim 5, a device 4.

1.2(d) With respect to claim 6, where the transport surface of the feeder 3 has a descending inclination relative to the device and the main surface of the device is inclined so an angle between the device's main surface and the transport surface of the feeder increases. See Figures 1, 2 and column 2, lines 44-47.

1.2(e) With respect to claim 7, where the main surface of the device is inclined such that an angle between the main surface of the device and the transport surface of the feeder increases. See Figures 1, 2 and column 2, lines 44-47.

1.2(f) With respect to claim 8, where end portions of chips put or waiting to be put into the cavities 5 of the device are capable of protruding into the transport surface of the feeder 3, 3F, 3R. See Figures 1, 2.

1.2(g) With respect to claim 9, with a device 3, 3F, 3R, 8, 10, 11 arranged to dispense the chips transported by the feeder such that a density of chips near the cavities of the device has a predetermined value. See column 5, lines 32-43.

1.2(h) With respect to claim 10, capable of measuring the electrical characteristics of the chips put into the cavities 5. See column 9, lines 12-13.

1.3. With respect to claim 11, KIYOKAWA discloses a handling device for chips with:

1.3(a) An accommodating device 4 having a plurality of cavities 5 arranged to put the chips into it, and

1.3(b) A feeder 3 arranged to supply the chips to the device where the feeder includes a transport surface arranged to transport the chips towards the cavities, and a feeding section arranged to feed the chips into the cavities;

1.3(a) The device is arranged to move such that a cavity is at a location which is close to the feeding section of the feeder;

1.3(b) On the transport surface of the feeder, the chips are supported on only one side surface of it, without fixing an orientation of a length direction of the chips, and

1.3(c) The chips are put directly into the cavities from the feeding section of the feeder by providing suction in the cavities from a cavity side. See column 5, lines 27-31, 41-50 and Figure 1.

1.4. With respect to claims 13, 14, 16-20, KIYOKAWA discloses a handling device, as discussed above, and:

1.4(a) With respect to claim 13, where when the electronic chip components are put into the cavities 5 from the feeder 3, 3F, 3R, the electronic chip components are directly put into the cavities 5 without being moved along a main surface of the accommodating device 4. See Figure 1 and column 5, 41-46.

1.4(b) With respect to claim 14, where the device 4 is a rotating disk-shaped device having a main surface B, and the cavities are disposed so as to be located close to the feeder 3 as a result of rotation thereof. See Figure 1.

1.4(c) With respect to claim 16, where the transport surface of the feeder 3 has a descending inclination relative to the device and the main surface of the device 4 inclined such that an angle between the main surface of the device and the transport surface of the feeder increases. See Figures 1, 2 and column 2, lines 44-47.

1.4(d) With respect to claim 17, where the main surface of the device is inclined such that an angle between the main surface of the device and the transport surface of the feeder increases. See Figures 1, 2 and column 2, lines 44-47.

1.4(e) With respect to claim 18, where end portions of chips put or waiting to be put into the cavities 5 of the device 4 are capable of protruding into the transport surface of the feeder 3, 3F, 3R. See Figures 1, 2.

1.4(f) With respect to claim 19, with a device 3, 3F, 3R, 8, 10, 11 arranged to disperse the chips being transported by the feeder such that a density of chips near the cavities of the accommodating device has a predetermined value. See column 5, lines 32-43.

1.4(g) With respect to claim 20, capable of measuring the electrical characteristics of the electronic chip components put into the cavities 5. See column 9, lines 12-13.

1.5. With respect to claims 21, KIYOKAWA discloses a handling device for electronic chip components with:

1.5(a) An accommodating device 4 with cavities 5 arranged to put chips into it, and

1.5(b) A feeder 3, 3F, 3R arranged to supply the chips to the device 4 where

1.5(b)(i) The feeder includes a transport surface arranged to support the chips towards the cavities, and a feeding section arranged to feed the chips into the cavities,

1.5(b)(ii) The device 4 is arranged to move such that at least one of the cavities 5 is disposed at a location which is in close proximity to the feeding section of the feeder 3, 3F, 3R,

1.5(b)(iii) On the transport surface of the feeder 3, 3F, 3R, the chips are freely oriented in a width direction and a thickness direction thereof and are supported on only one side surface thereof, without fixing an orientation of the length direction of the electronic chip components, and

1.5(b)(iv) The chips are put directly into the cavities 5 from the feeding section of the feeder 3, 3F, 3R by providing suction in the cavities 5 from a cavity side. See column 5, lines 27-31, 41-50.

1.5(c) See Figure 1.

1.6. With respect to claims 23, 24, 26-31, 33, 34, 36-40, KIYOKAWA discloses a handling device, as discussed above, and:

1.6(a) With respect to claim 23, where when the chips are put into the cavities 5 from the feeder 3, 3F, 3R, the electronic chip components are directly put into the cavities 5 without being moved along a main surface of the accommodating device 4. See Figure 1 and column 5, lines 41-46.

1.6(b) With respect to claim 24, where the device 4 is a rotating disk-shaped device having a main surface B, and the cavities are disposed so as to be located close to the feeder 3 as a result of rotation thereof. See Figure 1.

1.6(c) With respect to claim 26, where the transport surface of the feeder 3 has a descending inclination relative to the device 4 and the main surface of the device is inclined such that an angle between the main surface of the device and the transport surface of the feeder increases. See Figures 1, 2 and column 2, lines 44-47.

1.6(d) With respect to claim 27, where the main surface of the accommodating device 4 is inclined such that an angle between the main surface of the accommodating device 4 and the transport surface of the feeder 3 increases. See Figures 1, 2 and column 2, lines 44-47.

1.6(e) With respect to claim 28, where end portions of chips put or waiting to be put into the cavities 5 of the device 4 are capable of protruding into the transport passage of the feeder 3, 3F, 3R. See Figures 1, 2.

1.6(f) With respect to claim 29, with a dispersing device 3, 3F, 3R, 8, 10, 11 for dispersing the chips being transported by the feeder such a density of chips near the cavities of the device may be made a target value. See column 5, lines 32-43.

1.6(g) With respect to claim 30, capable of measuring the electrical characteristics of the chips put into the cavities 5. See column 9, lines 12-13.

1.6(h) With respect to claim 31, with:

1.6(h)(i) An device 4 having cavities 5 for putting chips into it, and

1.6(h)(ii) A feeder 3, 3F, 3R for supplying the chips to the accommodating device 4 where the device can be moved and at least one of the cavities 5 is successively disposed at a location close to the feeder 3,

3F, 3R, and the chips are made to float in air by a floating unit of the feeder and, by performing a suction operation in the cavities, the chips in the air are put into the cavities. See column 5, lines 27-31, 41-50.

1.6(h)(iii) See Figure 1.

1.6(i) With respect to claim 33, where when the chips are put into the cavities 5 from the feeder 3, 3F, 3R, the chips are directly put into the cavities 5 without being moved along a main surface of the device 4. See Figure 1 and column 5, 41-46.

1.6(j) With respect to claim 34, where the device 4 is a rotating disk-shaped device having a main surface B, and the cavities 5 are disposed so as to be located close to the feeder 3, 3F, 3R as a result of rotation thereof. See Figure 1.

1.6(k) With respect to claim 36, where the transport surface of the feeder 3, 3F, 3R has a descending inclination relative to the device 4 and the main surface of the device 4 is inclined such that an angle between the main surface of the device 4 and the transport surface of the feeder 3 increases. See Figures 1, 2 and column 2, lines 44-47.

1.6(l) With respect to claim 37, where the main surface of the device 4 is inclined such that an angle between the main surface of the device 4 and the transport surface of the feeder 3 increases. See Figures 1, 2 and column 2, lines 44-47.

1.6(m) With respect to claim 38, where end portions of chips put or waiting to be put into the cavities 5 of the accommodating device are capable of protruding into the transport surface of the feeder 3, 3F, 3R. See Figures 1, 2.

1.6(n) With respect to claim 39, with a device 3, 3F, 3R, 8, 10, 11 arranged to disperse the chips being transported by the feeder 3, 3F, 3R such that a density of chips near the cavities 5 of the device 4 has a desired value. See column 5, lines 32-43.

1.6(o) With respect to claim 40, capable of measuring the electrical characteristics of the chips put into the cavities 5. See column 9, lines 12-13.

1.7. With respect to claims 43-44, KIYOKAWA discloses a handling method for electronic chip components, with the steps of:

1.7(a) Providing an accommodating device 4 with cavities 5,

1.7(b) Providing a feeder 3 arranged to supply the chips to the device including a transport surface arranged to transport the chips towards the cavities, and a feeding section arranged to fee the chips into the cavities, and

1.7(c) Putting chips into the device 4 from the feeder, where by performing a suction operation in at least:

1.7(c)(i) With respect to claim 43, two of the cavities 5 simultaneously disposed at a location close to the feeder the chips are put into the cavities from the feeder. See column 2, lines 24-26, column 5, lines 27-31, and column 6, lines 5-6, 37-39.

1.7(c)(ii) With respect to claim 44, one cavity 5 disposed at a location closest to the feeder 3, the chips are directly put into the cavities from the feeder without being moved along the main surface of the device. See column 2, lines 24-26, column 5, lines 27-31, and column 6, lines 5-6, 37-39.

1.8. However, with respect to claim 5, although KIYOKAWA fails to teach the device's rotation axis is substantially horizontal, it would have been obvious to one of ordinary skill in the art to rotate the accommodating device of KIYOKAWA so that its rotation axis is horizontal.

1.9. However, with respect to claims 1, 3-4, 6-11, 13-14, 16-21, 23-24, 26-31, 33-34, 36-40, and 43-44, KIYOKAWA fails to teach suction is provided in the cavities from the cavity side. JIN teaches a chip 212 that is held in place on a surface by suction

applied from the surface 217 below the chip. Therefore, it would have been obvious to one of ordinary skill in the art to modify the inner surface of cavities of KIYOKAWA with a suction mechanism, as the surface in JIN, in order to facilitate holding a chip in place in the cavity.

2. Claims 15, 25, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIYOKAWA (U.S. Patent No. 6,019,564).

2.1. With respect to claim 15, KIYOKAWA discloses a handling device, as discussed above, with an accommodating device 4. However, although KIYOKAWA fails to teach the accommodating device's rotation axis is in a substantially horizontal position, it would have been obvious to one of ordinary skill in the art to rotate the accommodating device of KIYOKAWA so that its rotation axis is in a substantially horizontal position.

2.2. With respect to claim 25, KIYOKAWA discloses a handling device, as discussed above, with an accommodating device 4. However, although KIYOKAWA fails to teach the accommodating device's rotation axis is in a substantially horizontal position, it would have been obvious to one of ordinary skill in the art to rotate the accommodating device of KIYOKAWA so that its rotation axis is in a substantially horizontal position.

2.3. With respect to claim 35, KIYOKAWA discloses a handling device, as discussed above, with an accommodating device 4. However, although KIYOKAWA fails to teach the accommodating device's rotation axis is in a substantially horizontal position, it would have been obvious to one of ordinary skill in the art to rotate the accommodating device of KIYOKAWA so that its rotation axis is in a substantially horizontal position.

3. Claims 2, 12, 22, 32, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIYOKAWA (U.S. Patent No. 6,019,564) and JIN (U.S. Patent No. 6,121,118) in view of SAITO (Japanese Patent No. 363,295,323A).

3.1. With respect to claim 2, KIYOKAWA discloses a handling device discussed above, where the electronic chip components can be put into the cavities 5.

3.2. With respect to claims 12, 22, 32, 41 and 42, KIYOKAWA discloses the handling device discussed above, and

3.2(a) With respect to claim 12, where the chip components can be moved freely with any orientation and can be put into the cavities 5 in a free order.

3.2(b) With respect to claims 22 and 32, the electronic chips can be moved freely with any orientation and can be put into the cavities 5 in a free order.

3.2(c) With respect to claim 41,

3.2(c)(i) An accommodating device 4 having a plurality of cavities 5 arranged to put chips into it,

3.2(c)(ii) A transport portion 3 arranged to transport the chips to the cavities 5 in the accommodating device 4

3.2(c)(iii) A first suction block 3F having a transport passage linked to the transport portion and arranged to put the chips into the transport passage by a suction operation. See column 5, lines 27-31, 41-50.

3.2(c)(iv) A feeder 3 arranged to supply the chips to a location 5 in close proximity to an entrance of a transport passage of a suction block 3F, 3R. See Figures 1, 2.

3.2(c)(v) And a second suction block 3R arranged to put the chips into the cavities by providing suction in the cavities from a cavity side.

3.2(d) With respect to claim 42, KIYOKAWA discloses a handling device for electronic chip components with

3.2(d)(i) An accommodating device 4 having cavities 5 for putting chips into it, and

3.2(d)(ii) A feeder 3 arranged to supply the electronic chip components to the device 4, where

3.2(d)(iii) The device is arranged to move such that a cavity is disposed at a location which is the closest to the feeder, and

3.2(d)(iv) the chips are directly put into the cavities 5 from the feeder 3, without being moved along a main surface of the device by providing suction in the cavities from a cavity side. See column 5, lines 27-31, 41-50.

3.2(d)(v) See Figures 1, 2.

3.3. However, KIYOKAWA fails to teach the feeder is a circulatory feeder in which the electronic chip components move freely with any orientation in a free direction and the electronic chip components are supplied to the transport passage of the suction block in a free order.

3.4. SAITO teaches a circulatory feeder. See Figure 1. Therefore, it would have been obvious to one of ordinary skill in the art to modify the feeder of KIYOKAWA with the circulatory feeder of SAITO in order to freely move the electronic chip components into the handling device.

III. Response to Applicant's Arguments

Applicant's arguments entered February 1, 2007 have been fully considered.

1. Applicant's arguments with respect to the rejection of claims 1, 3-4, 6-11, 13-14, 16-21, 23-24, 26-31, 33-34, 36-40, and 43-44 under 35 U.S.C. 102(b) are not persuasive.

1.1. **With respect to claims 1, 11, 21, 31, and 41-44, Applicant argues KIYOKAWA is missing features recited by independent claims 1, 11, 21, 31, and 41-44.** However, the Examiner disagrees with the Applicant.

1.1(a) With respect to claims 1, 11, 21, 31, and 41-44, Applicant argues KIYOKAWA fails to teach a suction force is provided in the cavities and the chips are put directly into the cavities from the feeder by providing suction in the cavities from a cavity side. Thus, the Examiner has provided the JIN reference, as discussed above, to show it would have been obvious to one of ordinary skill in the art to modify the inner surface of cavities of KIYOKAWA with a suction mechanism in order to facilitate holding a chip in place in the cavity.

2. Applicant's arguments with respect to the rejection of claims 2, 21-22, 32, 41, 42 under 35 U.S.C. 103(a) are not persuasive.

2.1. With respect to claims 2, 21-22, 32, 41, 42, Applicant argues SAITO does not cure deficiencies of KIYOKAWA. However, the Examiner disagrees with the Applicant.

2.1(a) With respect to claims 2, 21-22, 32, 41, 42, Applicant argues SAITO fails to teach or suggest:

2.1(a)(i) The feeder has a transport surface arranged to transport the chips towards the cavities. However, this argument is irrelevant. KIYOKAWA teaches a transport surface, as discussed above. KIYOKAWA teaches a pick-up head that transports, or moves, the

chips from one position to another. Furthermore, this pick-up head also contains a surface which the chip touches while it is being transported. Thus, KIYOKAWA, alone, clearly teaches this limitation.

2.1(a)(ii) The feeding section is arranged to feed the chips into the cavities. However, this argument is irrelevant. KIYOKAWA clearly teaches feeding section feeds chips into the cavities because it teaches a pick-up head that feeds, or supplies, the chips into the cavities, as discussed above. Thus, KIYOKAWA, alone, clearly teaches this limitation.

IV. Conclusion

1. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

2. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gina M. Lupino whose telephone number is (571) 272-6557. The examiner can normally be reached on 9:30am - 5:30pm EST.

4. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6. GML

GENE O. CRAWFORD
SUPERVISORY PATENT EXAMINER